

1. Which is not a quadratic function?

- ☐ A. $f(x) = 4 - 3x^2$
☐ B.

$$f(x) = \frac{4}{7}x^2 + 2x - 9$$

- ☐ C.

$$f(x) = \frac{5}{x^2} + 6x - 9$$

- ☐ D. $f(x) = -10x^2$

2. Which graph of the following quadratic functions below opens upward?

- ☐ A. $f(x) = 4x^2 + 4x - 9$
☐ B. $f(x) = 7x - 3 - 4x^2$
☐ C. $f(x) = -2x^2 - 5x - 7$
☐ D. $f(x) = 4 - x - x^2$

3. Which graph of the following quadratic functions below opens downward?

- ☐ A. $f(x) = x^2 + 4x$
☐ B. $f(x) = 5 + 4x^2$
☐ C. $f(x) = 2x^2 - 5x$
☐ D. $f(x) = 10 - 5x - x^2$

4. Which of the following has two real and different roots?

- ☐ A. $f(x) = x^2 + x - 6$
☐ B. $f(x) = x^2 + 8x + 16$
☐ C. $f(x) = x^2 - 2x + 10$
☐ D. $f(x) = x^2 - 2x + 8$

5. Given that $f(x) = x^2 + 8x + m + 10$ has one root only, determine the value of m .

- ☐ A. 6
☐ B. 0
☐ C. -6
☐ D. -2

6. Find the vertex of $f(x) = x^2 - 2x + 2$.

- ☐ A. (1, 1)
☐ B. (-1, -1)
☐ C. (0, 1)
☐ D. (0, 0)

7. What is the minimum value of $f(x) = x^2 + 14x - 14$?

- ☐ A. -63
☐ B. 63
☐ C. 7
☐ D. -7

8. Write the quadratic $f(x) = 2x^2 - 8x + 11$ in the form of $a(x - p)^2 + q$.

- ☐ A. $f(x) = -2(x - 2)^2 + 3$
☐ B. $f(x) = 2(x + 2)^2 + 3$
☐ C. $f(x) = (x - 2)^2 + 3$
☐ D. $f(x) = 2(x - 2)^2 + 3$

9. Find the y-intercept of $f(x) = x^2 - 5x + 6$.

- ☐ A. (0, 6)
☐ B. (6, 0)
☐ C. (0, 0)
☐ D. (6, 6)

10. What is the vertex of $f(x) = x^2 - 6x + 17$?

- ☐ A. (3, 8)
☐ B. (-3, -8)
☐ C. (3, -8)
☐ D. (-8, 3)